

CLAIMS

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1. A method of fabricating a semiconductor device, comprising the steps of:

forming a first insulation film on a substrate by a spin-on process;

10 applying a curing process to said first insulation film at a temperature of 380 - 500°C over a duration of 5 - 180 seconds; and

forming a second insulation film on said first insulation film by a spin-on process.

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2. A method as claimed in claim 1, wherein
20 said first insulation film comprises an organic material having a specific dielectric constant of 3.0 or less.

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3. A method as claimed in claim 1, wherein said first insulation film comprises an organic material of aromatic group.

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4. A method as claimed in claim 1, wherein
said first insulation film is formed of a spin-on
film selected from the group consisting of an SiNCH
film, an SiOCH film, an organic SOG film, and an HSQ
5 film.

10 5. A method as claimed in claim 1, wherein
said second insulation film comprises an organic
material having a specific dielectric constant of 3.0
or less.

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6. A method as claimed in claim 1, wherein
said second insulation film comprises an organic
20 material of aromatic group.

25 7. A method as claimed in claim 1, wherein
said second insulation film is formed of a spin-on
film selected from the group consisting of an SiNCH
film, an SiOCH film, an organic SOG film, and an HSQ
film.

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8. A method as claimed in claim 1, wherein said curing process is conducted at a temperature between 380 - 500°C over a duration of 10 - 150 seconds.

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9. A method as claimed in claim 1, wherein
10 said curing process is conducted at a temperature between 400 - 470°C over a duration of 10 - 150 seconds.

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10. A method as claimed in claim 1, wherein said curing process is conducted such that there is formed an intermixing layer between said first and
20 second insulation films.

25 11. A method of fabricating a semiconductor device, comprising the steps of:

forming a first insulation film on a substrate by a spin-on process;

30 applying a curing process to said first insulation film at a temperature of 380 - 500°C over a duration of 5 - 180 seconds;

forming a second insulation film on said first insulation film by a spin-on process;

patterning said second insulation film to form an opening therein; and

etching said first insulation film while using said second insulation film as a mask.

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12. A method as claimed in claim 11,
10 wherein said first insulation film comprises an organic material having a specific dielectric constant of 3.0 or less.

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13. A method as claimed in claim 11,
wherein said first insulation film comprises an organic material of aromatic group.

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14. A method as claimed in claim 11,
25 wherein said first insulation film is formed of a spin-on film selected from the group consisting of an SiNCH film, an SiOCH film, an organic SOG film, and an HSQ film.

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15. A method as claimed in claim 11,

wherein said second insulation film comprises an organic material having a specific dielectric constant of 3.0 or less.

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16. A method as claimed in claim 11,
wherein said second insulation film comprises an
10 organic material of aromatic group.

15 17. A method as claimed in claim 11,
wherein said second insulation film is formed of a
spin-on film selected from the group consisting of an
SiNCH film, an SiOCH film, an organic SOG film, and
an HSQ film.

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18. A method as claimed in claim 11,
25 wherein said curing process is conducted at a
temperature between 380 - 500°C over a duration of 10
- 150 seconds.

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19. A method as claimed in claim 11,
wherein said curing process is conducted at a

temperature between 400 - 470°C over a duration of 10
- 150 seconds.

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20. A method as claimed in claim 11,
wherein said curing process is conducted such that
there is formed an intermixing layer between said
10 first and second insulation films.

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